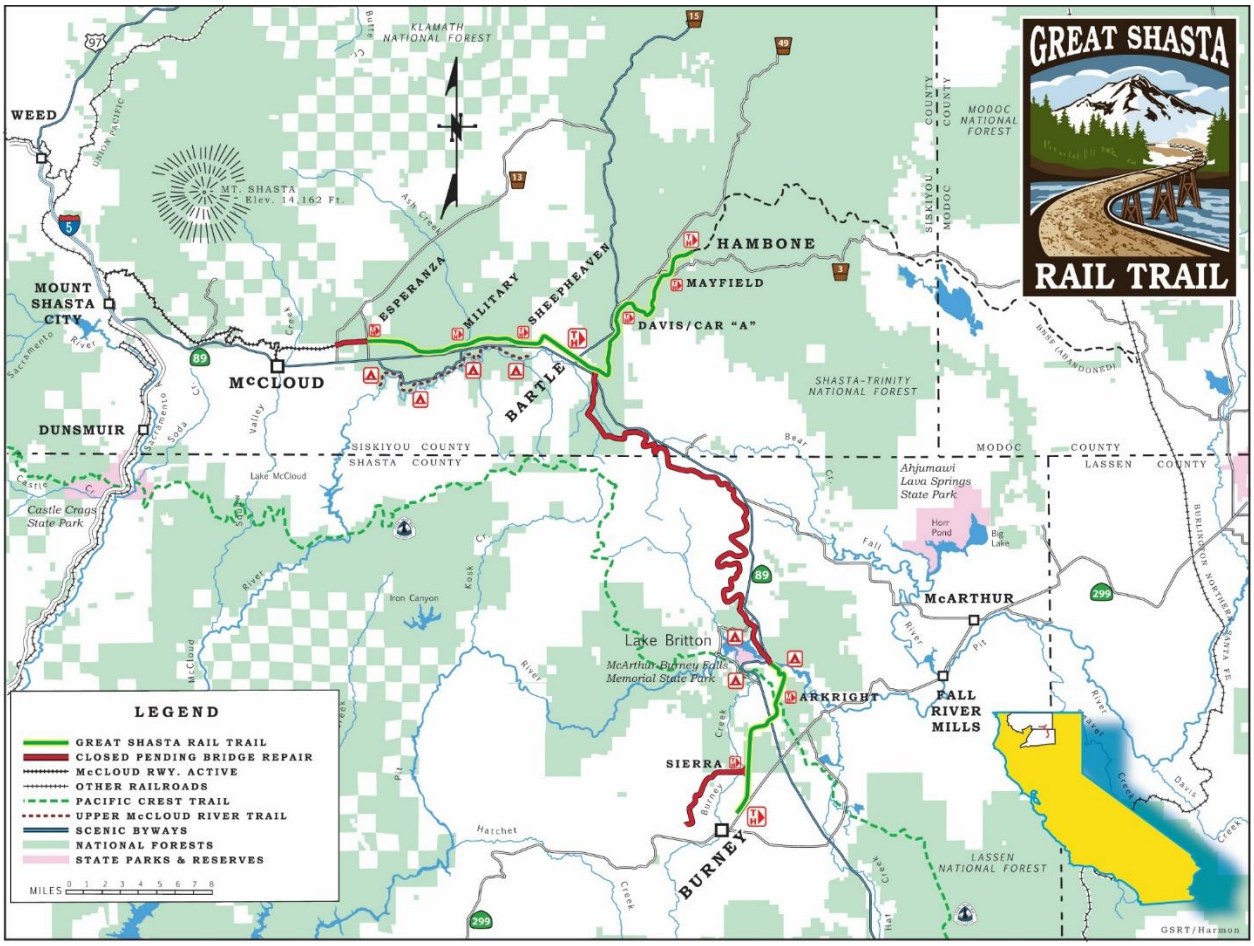
Lake Britton Bridges Project Description

June 7, 2017

For the environmental analysis to rehabilitate

two former railroad bridges along the Great Shasta Rail Trail,

located at Lake Britton in Shasta County, California



Purpose

The nonprofit Volcanic Legacy Community Partnership (VLCP) received a grant to prepare the environmental analysis to rehabilitate two bridges near Lake Britton in eastern Shasta County, California on the Great Shasta Rail Trail (GSRT). The VLCP is the project manager on behalf of the nonprofit Great Shasta Rail Trail Association (GSRTA), which owns and maintains the GSRT as a railbanked rail line under the jurisdiction of the United States Surface Transportation Board. The Forest Service is the responsible official for NEPA where adjacent national forest land is affected to perform work on the bridge abutments and for the staging areas.

Purpose and Need: Rail service along 80 miles of the McCloud River Railroad from Burney to Pilgrim Creek Road (east of McCloud) was discontinued in 2005. The rail line was subsequently railbanked by the United States Surface Transportation Board and a Notice of Interim Trail Use (NITU) was issued to the GSRTA in April 2016 to convert the line to a public, non-motorized trail. There are seven bridges along the GSRT that need to be rehabilitated to re-purpose them for trail use. Two of these bridges are located at Lake Britton along a 100 foot railroad right-of-way. Engineering inspections of the Lake Britton bridges and cost estimates for their rehabilitation were completed in March 2015. The environmental impacts associated with the rehabilitation of these two bridges will be analyzed in compliance with the National Environmental Policy Act.

Proposed Action: The GSRTA plans to rehabilitate two former railroad bridges along the Great Shasta Rail Trail, located at Lake Britton to facilitate trail use. Repair and rehabilitation of the pier caps supporting the Lake Britton trestle is planned for 2018, followed by installation of a wooden timber deck and safety hand rails, installation of an underdeck catwalk and railing system for inspection and maintenance, structural repair of the towers, painting, and refurbishment of the concrete abutments. The Lake Overpass bridge requires decking, safety hand rails, painting, replacement of the wood retaining walls at both sides of the bridge next to the two towers, and refurbishment of the abutments flanking State Route 89. Two existing staging areas either side of both bridges will be used temporarily during rehabilitation. A common existing staging area between the two bridges will also be used.

Background and Description of the Project

When the McCloud Railway Company hauled logs and freight between Mt. Shasta, McCloud and Burney, the railroad was a vital transportation link between these communities. Rail service operated between McCloud and Burney from 1897 to 2005, and stimulated their growth as thriving lumber

towns. Now this 80-mile historic railroad[1] is being developed to become one of California's premier, long-distance trails for all to use and enjoy, called the Great Shasta Rail Trail.

All seven GSRT bridges are structurally deficient and in need of repair or replacement to provide safe public access. Two major bridges are the Lake Britton Trestle and the Highway 89 Overpass (Lake Overpass) near Dusty Campground and Jamo Point day use area (see photo below). Until these bridges are rehabilitated, there is no alternative access for trail users to continue their journey on a through trail between the Burney and McCloud. Both bridges were inspected by a civil engineer in 2014. Final inspection reports with various alternatives to rehabilitate each bridge and cost estimates were completed in March 2015.

Both bridges are included in the *2015 Regional Transportation Plan for Shasta County* as short-term projects (see Table 49 – Summary of Projects: Regional Active Transportation/Recreation). Full development of the 80-mile GSRT is a collaborative effort with many community, tribal and agency partners. The nonprofit GSRTA and the VLCP are leading the effort to complete trail improvements and open all 80 miles to public use within 10 years.

The following work is needed to open the two bridges to the public. Other than the possible opening of an existing road for work access, rehabilitation of the bridge abutments, replacement and stabilization of wood retaining walls, and installation of traffic control signs and bollards, there are no ground disturbing activities associated with the planned work.

[1] For more information about the railroad's history, click on: http://mccloudriverrailroad.com/ and on http://www.trainweb.org/mccloudrails/

Project Description – Rehabilitation of the Lake Britton Trestle

This impressive bridge is a 462 foot span, open timber deck, steel girder trestle, built in 1955. It stands 60 to 95 feet above Lake Britton depending on pool height. The steel girder trestle has six towers or bents resting on concrete piers/pile caps, which in turn rest on driven steel pipe/concrete piles. The structural live load design was for a Cooper E50 (railroad rating). When rehabilitated, the design load for this bridge will be lowered to a loading appropriate for planned public use and support maintenance vehicles crossing and working on the bridge.

The wooden timber deck, ties and curb system exhibit advance deterioration. The original timber walkway and guardrail have failed. The timber deck needs to be replaced and safety hand rails installed. The steel girders and cross bracing under the wooden deck have some surface rust, which will be cleaned and those areas repainted. A large steel conduit carrying fiber optic communication lines will need repairs to the support system.

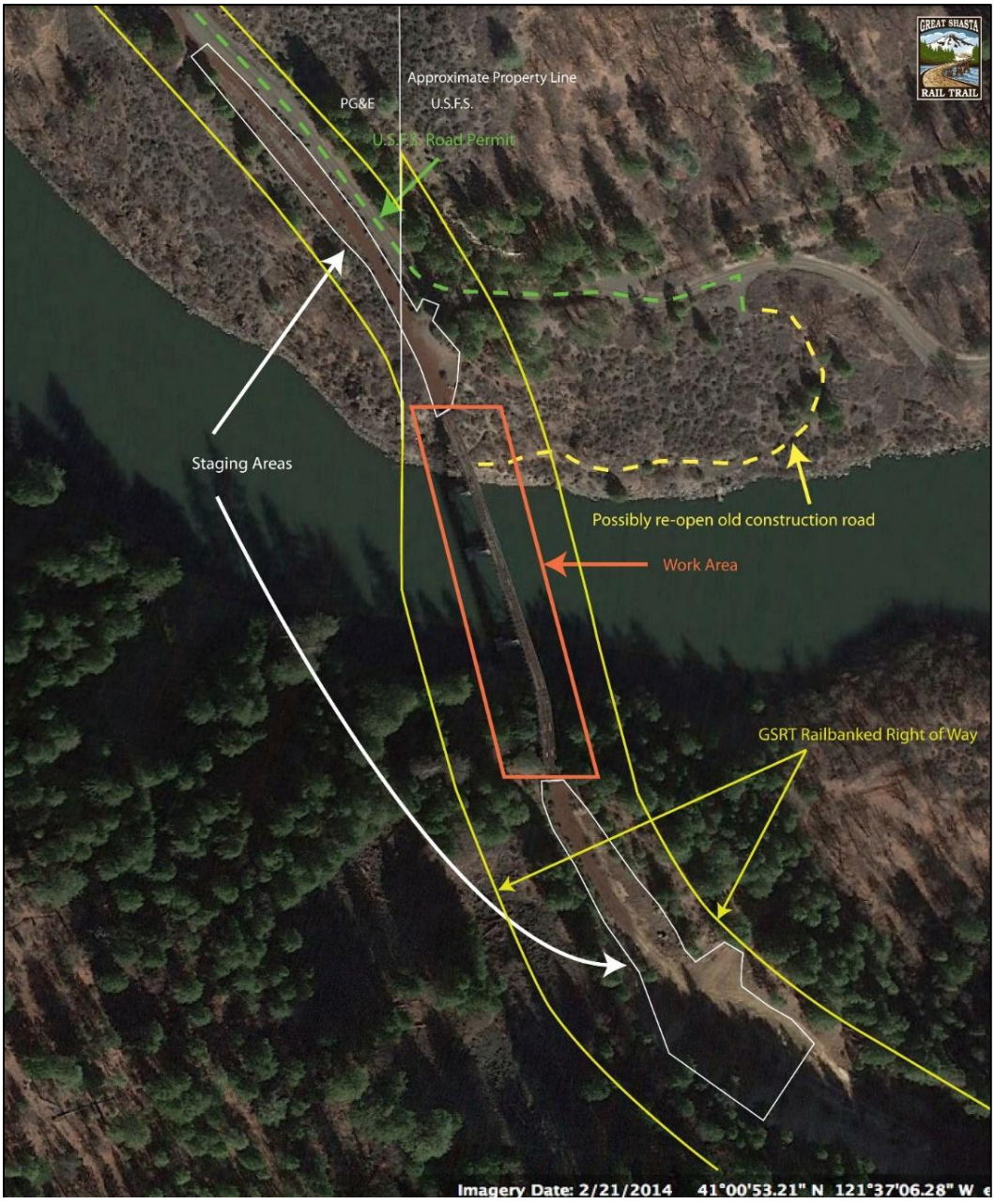
The six steel towers also show surface corrosion and those areas will be cleaned and repainted. Tower #4 in the center of the trestle has serious structural degradation. The west anchor bolt/plate connection shows stress cracking and rivet loosening, which can be repaired with welding and recoating. The concrete pier/pile caps upon which the towers rest have varying levels of deterioration such as distress cracking, moisture intrusion, and spalling. The abutments also show deterioration. Crack and void filling is recommended with sand blasting of surface deterioration. A protective sealant is proposed for concrete surfaces. The underwater inspection of the piles revealed no structural problems. However, the engineer recommended the larger tree limbs and debris be removed from around some piles. A geotechnical inspection did not find any needed bridge rehabilitation related to geology and soils. The installation of an underdeck catwalk/railing system has been recommended to allow inspection and maintenance work to be done on the steel structural members hidden by the deck structure.

Lake Britton Trestle, 462 feet long with six steel towers and 60 to 95 feet above the water depending on pool height.

Lake Britton Trestle deck ties and curb.

The area of potential effect for the environmental analysis is the trestle, including the deck, girders, towers, underwater piles, abutments, and an area extending the length of the trestle and 75 feet wide from both sides of the abutments. One temporary staging area is proposed on the northeast side of the trestle on national forest land and within the right-of-way (off the Dusty Campground access road) and one is located the southeast side of the trestle, also on national forest land and within the right-of-way (see Exhibit 1). Both staging areas were used for the construction of the trestle and subsequent maintenance activities. There is no new ground disturbance.

Exhibit 1: Lake Britton Trestle – GSRT Milepost B-49.921



Before and after photos of the rehabilitation of the 1903 Weber Creek Trestle on the 36-mile El Dorado Trail, Placerville, CA. This trestle is 620 feet long with 8 steel towers, 100 feet above the creek. General design elements for the Lake Britton Trestle will be similar.

Project Description – Rehabilitation of the Highway 89 Overpass (Lake Overpass)

The Lake Overpass is a 117 foot span, open timber deck steel trestle bridge over Highway 89, just north of Lake Britton. It was originally designed in 1954 and constructed at the same time as the Lake Britton Trestle. When rehabilitated, the design load will be lowered from a Cooper E50 (railroad rating) to a loading appropriate for the planned use at this bridge location. The timber deck, tie and curb system on this bridge exhibits advanced deterioration. The original timber walkway and guardrail have also failed. The deck will be replaced and safety handrails will be installed. There are three major areas of damage to the structural girders from vehicle hits. In some locations, the bottom flanges and plates of the girders are bent and deformed with some tears and shearing at the outer edge. There are also bent/deformed vertical braces, diagonal braces and gusset plates at these areas. Areas that have damage from vehicle hits will be repaired as needed to meet final design loading and structure protection. Some peeling paint and corrosion on the steel surface was noted and will be cleaned and those areas repainted.

There are two steel towers or bents at either end of the bridge. They have some peeling paint and surface corrosion that needs be cleaned and those areas repainted. Dents from vehicle hits were noted. The concrete abutments have slight cracking at the anchor bolts, but otherwise are in fairly good shape. Cracks will be filled and concrete surfaces cleaned and sealed. The wood retaining walls at both sides of the bridge next to the towers will be replaced and the ground stabilized.

Lake Overpass, 117 feet long and 15 feet, 3 inch clearance over State Route 89 near Jamo Point

Highway 89 Lake Overpass deck ties and curb

The area of potential effect for the environmental analysis is the overpass, including deck, girders, towers, retaining walls and an area extending the length of the overpass and 75 feet wide from both sides of the abutments. One temporary staging area is proposed on the southeast side of the overpass (off the Dusty Campground access road). Another temporary staging area is proposed on the northwest side of the overpass, four tenths of a mile south of the Lake Britton Ramp Road (Jamo Point) both within the right-of-way across PG&E land (see Exhibit 2 on the next page).

Exhibit 2: Lake Overpass – GSRT Milepost 49.899 and Caltrans 89SHA PM 29.33